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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,797	11/07/2001	Nobuaki Ohara	IIDAP20.001C1	1840

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EXAMINER

COMBS, JANEL L A

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/007,797

Applicant(s)

OHARA ET AL.

Examiner

Janelle Combs-Morillo

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Syslak et al (US 5,316,206).

Syslak teaches a method of brazing aluminum alloy members using an Zn-Al filler (such as Zn-5% Al, see ex. 1 column 3) with a low liquidus temperature of  $<419^{\circ}\text{C}$  (see Fig. 1), and a solidus temperature of  $382^{\circ}\text{C}$  (Fig. 1). Syslak teaches brazing at preferable  $500\text{--}620^{\circ}\text{C}$  (column 2 lines 7-8), and more specifically at  $583^{\circ}\text{C}$  or  $585^{\circ}\text{C}$  (see Fig. 2), which meets the instant limitation of “brazing is set  $40^{\circ}\text{C}$  or more higher than the liquidus temperature but  $585^{\circ}\text{C}$  or lower”. Syslak teaches that brazing using a low liquidus alloy filler and at high brazing temperatures achieves material and weight savings (column 3 lines 25-27), and high heat up rates can be applied to minimize brazing time (Fig. 2, column 3 lines 52-60). Therefore it is held that Syslak anticipates the instant invention.

Concerning claim 2, because Syslak teaches heating up at a rate  $30\text{--}150^{\circ}\text{C}/\text{min}$  (column 3 line 42) to temperatures above the liquidus temperature of the filler (see Fig. 1), wherein high heat up rates can be applied to minimize brazing time (Fig. 2, column 3 lines 52-60), then the instant limitation of “elevation of the temperature after exceeding the liquidus temperature is continued without keeping the article at a fixed temperature”.

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Concerning claim 3, Syslak teaches a CAB process using a fluoride flux and nitrogen atmosphere (column 3 lines 39-42). The examiner points out that the instant specification mentions the "NB method (CAB method)" on page 2 lines 7-8. Therefore, because Syslak teaches a CAB method, Syslak is held to anticipate the instant invention which mentions "NB method".

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Syslak et al (US 5,316,206).

Syslak teaches the use of brazing fillers from Zn-Al alloys, such as Zn-5%Al (ex. 1). Syslak does not teach an example with the use of a Zn-4% Al alloy. However, it would have been obvious to one of ordinary skill in the art to select a Zn-Al alloy, such as Zn-4% Al, from the disclosure of Syslak, because Syslak teaches fillers with ~~15%~~<sup>to</sup> 15% Zn<sub>A</sub> be suitable for forming fillets (column 3 lines 1-4). Alternatively, it would have been obvious to one of ordinary skill in the art to select Zn-4% Al for the brazing filler of the process taught by Syslak, because Zn-4% Al (instant claim 4) is a close approximation of Zn- 5% Al (as taught by Syslak in Ex. 1), and said alloys exhibit substantially similar liquidus and solidus points (see Fig. 1).


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***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs- Morillo whose telephone number is (703) 308-4757. The examiner can normally be reached Monday through Friday from 7:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (703) 308-1146. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
GEORGE WYSZOMIERSKI  
PRIMARY EXAMINER

jcm 

October 9, 2003